IN THE CLAIMS

1. (Currently Amended) A ~~computer-implemented~~ method of reducing the number of hypotheses for locations of an active object in a saved image generated by a graphical user interface (GUI) of an application program comprising:

determining possible triangles for the saved image, wherein vertices of the triangles are points where the active object and any two additional objects of the saved image are located;

determining possible pairs of hypotheses corresponding to the two additional objects from a current playback image corresponding to the saved image;

determining triangles corresponding to the possible pairs of hypotheses and filtering the detected triangles;

determining vertices with weights for similar triangles of the current playback image; and

calculating, at a processor, a weight for every hypothesis of the active object and filtering hypotheses of the active object on the current playback image based on a weight bound.

2. (Original) The method of claim 1, wherein determining possible triangles comprises decreasing the number of possible triangles by using only triangles having an edge between two additional objects whose length is less than a predetermined distance.

3. (Original) The method of claim 1, wherein determining possible pairs of hypotheses comprises decreasing the number of possible triangles by using only triangles which have an edge between two additional objects whose length is within a calculated interval based on a first coefficient value.

4. (Original) The method of claim 1, wherein determining triangles corresponding to the pairs of hypotheses comprises decreasing the number of triangles by using only triangles which have angles within a calculated interval based on a second coefficient value.

5. (Original) The method of claim 1, wherein a weight of a selected vertex of a triangle comprises 1.0 multiplied by the number of vertices of other triangles coincident at the selected vertex.

6. (Original) The method of claim 1, wherein calculating a weight for every hypothesis of the active object comprises calculating the sum of distances between the location

of the hypothesis and all corresponding vertices using a third coefficient value and an upper bound value.

7. (Original) The method of claim 1, wherein filtering the hypotheses of the active object comprises filtering a hypothesis if the calculated weight of the hypothesis is less than the weight bound.

8. (Original) The method of claim 1, further comprising identifying the best hypothesis for the active object based on the filtering.

9. (Currently Amended) An article comprising: a storage medium readable by a processor comprising ~~machine-accessible medium containing~~ instructions, which when executed, result in reducing the number of hypotheses for locations of an active object in a saved image generated by a graphical user interface (GUI) of an application program by

determining possible triangles for the saved image, wherein vertices of the triangles are points where the active object and any two additional objects of the saved image are located;

determining possible pairs of hypotheses corresponding to the two additional objects from a current playback image corresponding to the saved image;

determining triangles corresponding to the possible pairs of hypotheses and filtering the detected triangles;

determining vertices with weights for similar triangles of the current playback image; and

calculating a weight for every hypothesis of the active object and filtering hypotheses of the active object on the current playback image based on a weight bound.

10. (Original) The article of claim 9, wherein instructions to determine possible triangles comprise instructions to decrease the number of possible triangles by using only triangles having an edge between two additional objects whose length is less than a predetermined distance.

11. (Original) The article of claim 9, wherein instructions to determine possible pairs of hypotheses comprise instructions to decrease the number of possible triangles by using only triangles which have an edge between two additional objects whose length is within a calculated interval based on a first coefficient value.

12. (Original) The article of claim 9, wherein instructions to determine triangles corresponding to the pairs of hypotheses comprise instructions to decrease the number of

triangles by using only triangles which have angles within a calculated interval based on a second coefficient value.

13. (Original) The article of claim 9, wherein a weight of a selected vertex of a triangle comprises 1.0 multiplied by the number of vertices of other triangles coincident at the selected vertex.

14. (Original) The article of claim 9, wherein instructions to calculate a weight for every hypothesis of the active object comprise instructions to calculate the sum of distances between the location of the hypothesis and all corresponding vertices using a third coefficient value and an upper bound value.

15. (Original) The article of claim 9, wherein instructions to filter the hypotheses of the active object comprise instructions to filter a hypothesis if the calculated weight of the hypothesis is less than the weight bound.

16. (Original) The article of claim 9, further comprising instructions to identify the best hypothesis for the active object based on the filtering.

17. (Currently Amended) A cognitive control framework system for automatically controlling execution of an application program having a graphical user interface comprising:

a recording component adapted to capture user input data and images displayed by the graphical user interface during a recording phase of execution of the application program, and to analyze the captured user input data and displayed images to generate an execution scenario during the recording phase; and

a playback component adapted to perform image analysis on images displayed by the graphical user interface as a result of processing the simulated user input data during the playback phase and captured displayed images from the recording phase by, the playback component being adapted to reduce the number of hypotheses for locations of an active object in a saved image generated by a graphical user interface (GUI) of an application program by, at a processor:

determining possible triangles for the saved image, wherein vertices of the triangles are points where the active object and any two additional objects of the saved image are located;

determining possible pairs of hypotheses corresponding to the two additional objects from a current playback image corresponding to the saved image;

determining triangles corresponding to the possible pairs of hypotheses and filtering the detected triangles;

determining vertices with weights for similar triangles of the current playback image; and

calculating a weight for every hypothesis of the active object and filtering hypotheses of the active object on the current playback image based on a weight bound.

18. (Original) The system of claim 17, wherein determining possible triangles comprises decreasing the number of possible triangles by using only triangles having an edge between two additional objects whose length is less than a predetermined distance.

19. (Original) The system of claim 17, wherein determining possible pairs of hypotheses comprises decreasing the number of possible triangles by using only triangles which have an edge between two additional objects whose length is within a calculated interval based on a first coefficient value.

20. (Original) The system of claim 17, wherein determining triangles corresponding to the pairs of hypotheses comprises decreasing the number of triangles by using only triangles which have angles within a calculated interval based on a second coefficient value.

21. (Original) The system of claim 17, wherein a weight of a selected vertex of a triangle comprises 1.0 multiplied by the number of vertices of other triangles coincident at the selected vertex.

22. (Original) The system of claim 17, wherein calculating a weight for every hypothesis of the active object comprises calculating the sum of distances between the location of the hypothesis and all corresponding vertices using a third coefficient value and an upper bound value.

23. (Original) The system of claim 17, wherein filtering the hypotheses of the active object comprises filtering a hypothesis if the calculated weight of the hypothesis is less than the weight bound.

24. (Original) The system of claim 17, wherein the playback component is adapted to identify the best hypothesis for the active object based on the filtering.